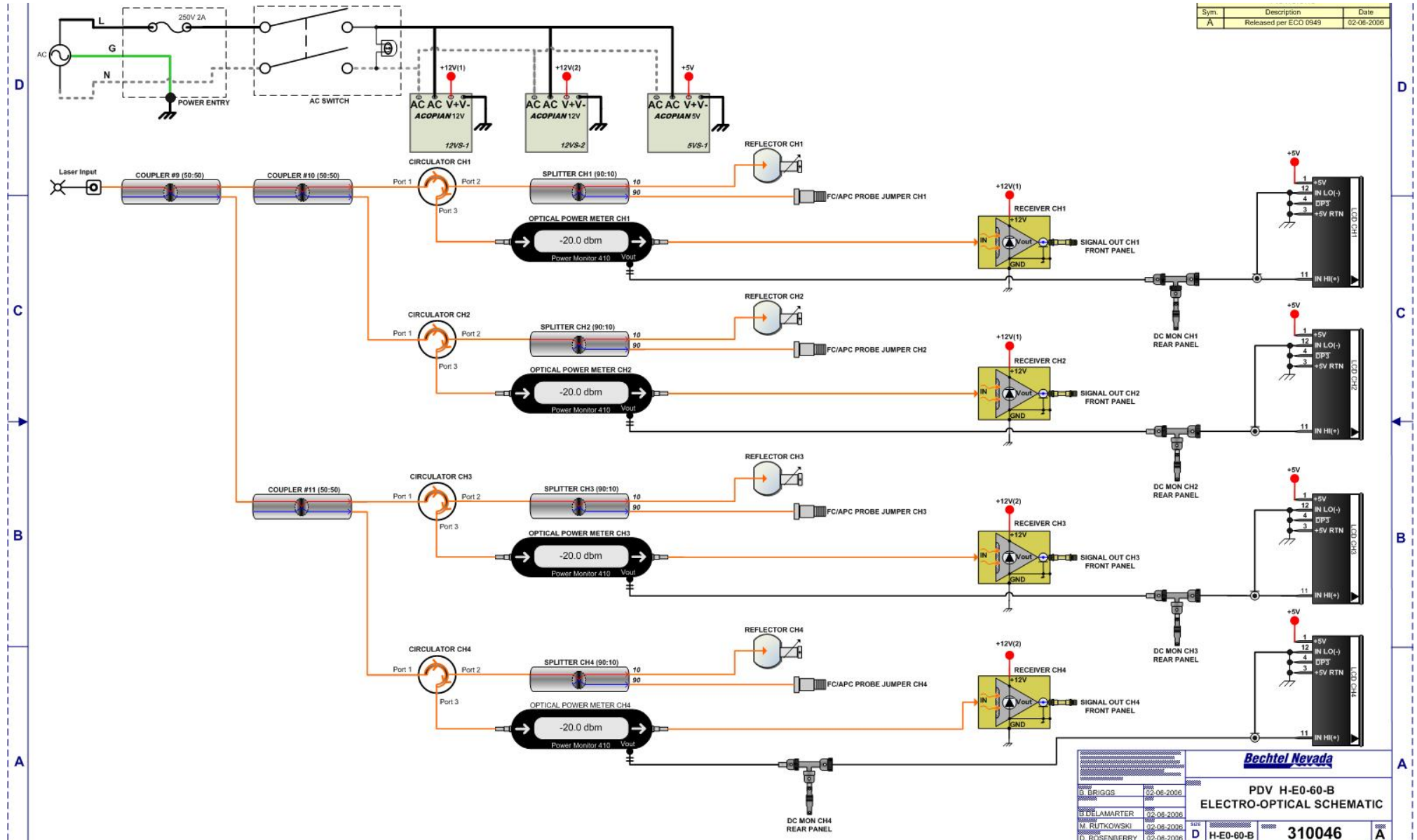


# PDV Fabrication at NSTec LAO: Part II

**Adam J. Iverson**  
**Laser Systems Engineer**

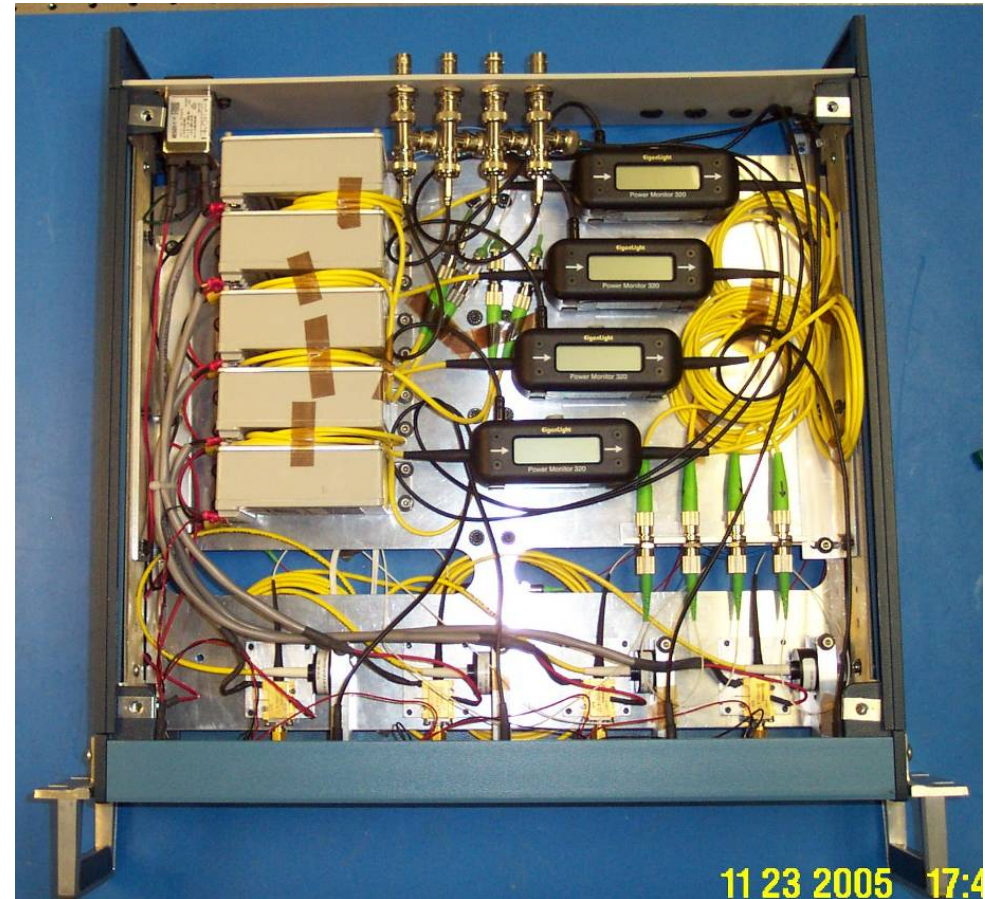
Presented to:  
PDV Workshop  
**August 2007**

# PDV Fabrication: Gen. I Schematic

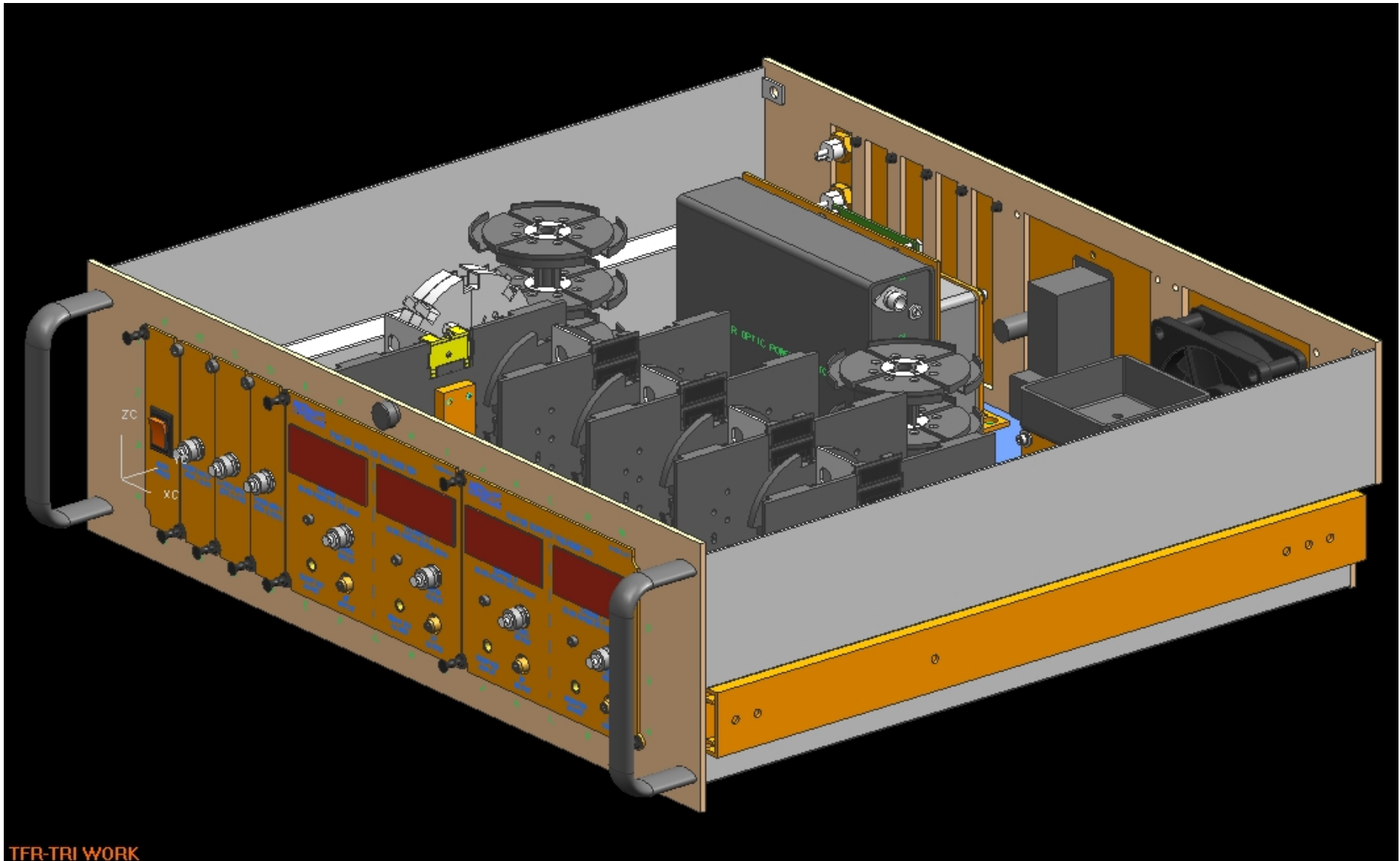


## PDV Fabrication: Past

- 2U Rackmount 4-Channel PDV Box (Gen. I)
  - Total of 4 built
  - All 4 worked
  - All 4 are still being used
  - Drawbacks
    - Difficult to build
      - Harder to service
    - Cumbersome to setup & use
      - Internal fiber connections
      - Recessed retro-reflector
      - Poor LCD readability
    - Not that visually appealing



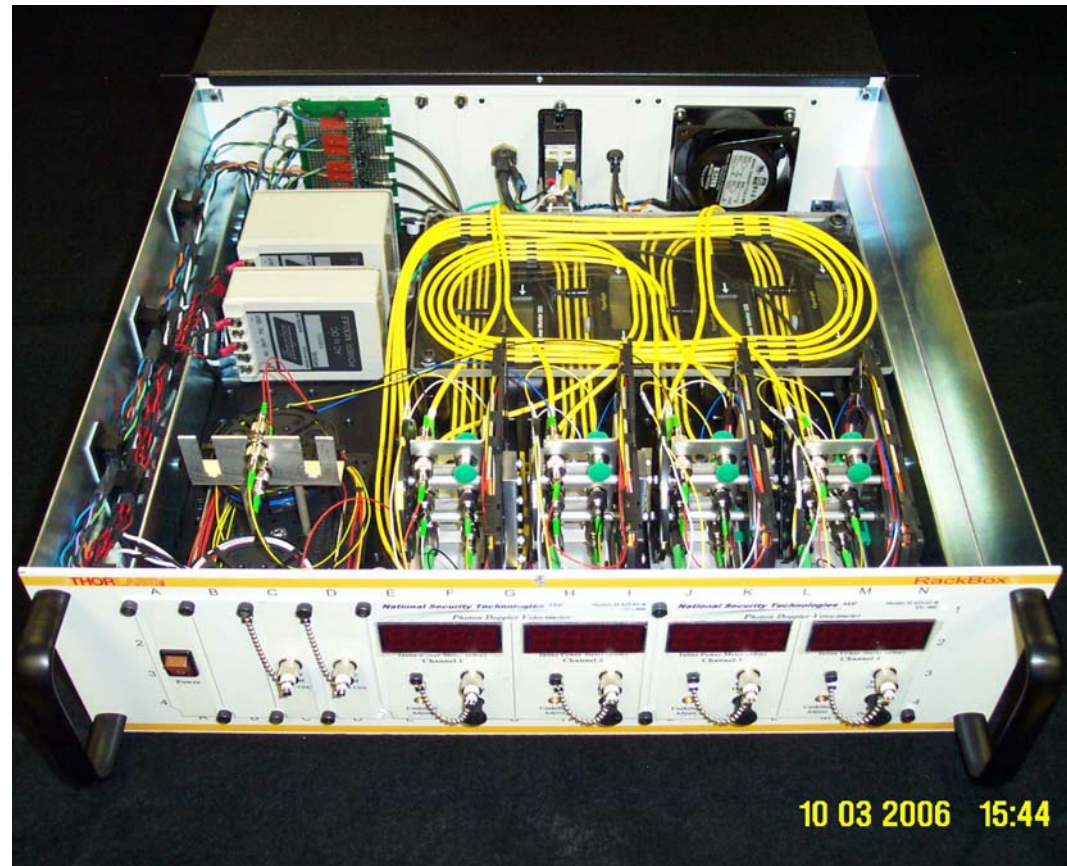
# PDV Fabrication: Present



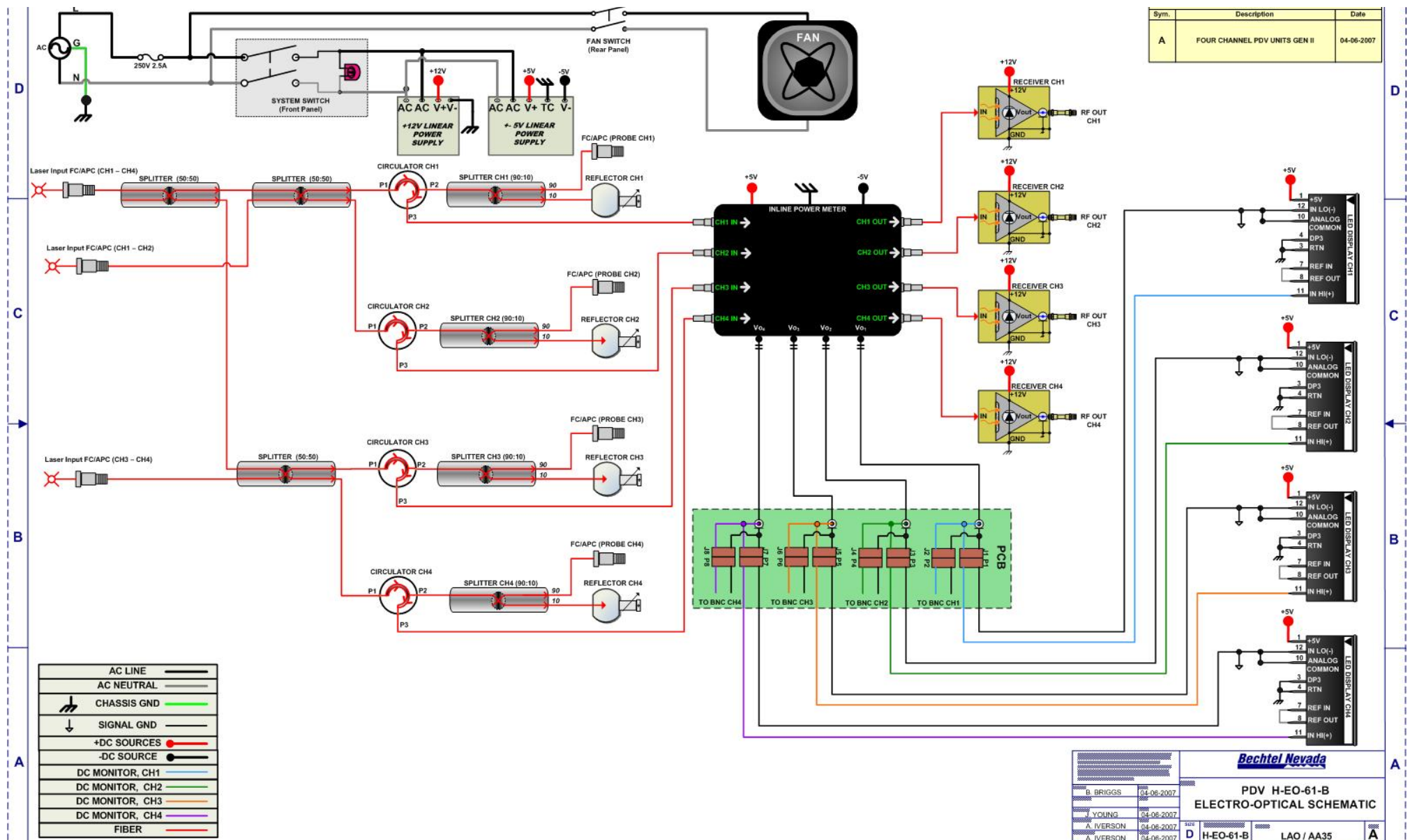


# PDV Fabrication: Present

- 3U Rackmount 4-Channel PDV Box (Gen. II)
  - ~2 months of design, ordering parts & fabrication
  - 1 Prototype Unit – Oct. '06
    - T. Sandoval of LANL
  - Improvements
    - Front panel fiber connection
    - Front panel retro-reflector
    - Bright LED display
    - 4-Ch or 2-Ch laser inputs
    - Improved serviceability
    - Improved cleanliness
    - Visually appealing
  - Drawbacks
    - Larger & heavier



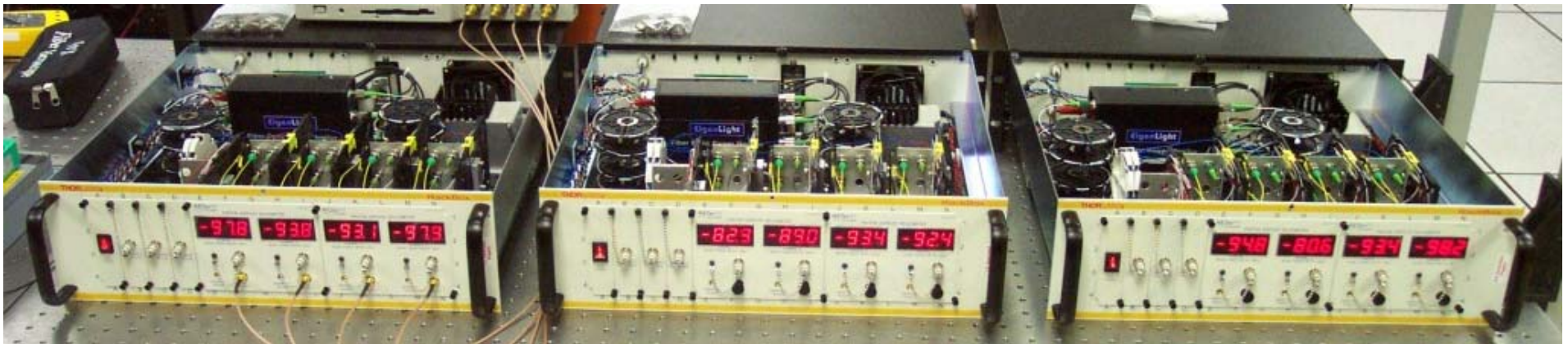
# PDV Fabrication: Gen. II Schematic





## PDV Fabrication: Present

- 3U Rackmount 4-Channel PDV Box (Gen. II)
  - Build 8 production units & detailed assembly documentation package
  - Few more months of ordering parts, minor redesign & fabrication
    - Phase I – Mar. '07
      - 1x NSTec-LAO, 2x B. Jensen of LANL
    - Phase II – Aug. '07
      - 1x NSTec-LAO, 1x J. Stevens of STL, 1x M. Furnish of SNL
    - Phase III – Sept. '07
      - 1x M. Furlanetto of LANL, 1x S. Levinson of IAT @ UT-Austin



## PDV Fabrication: Noteworthy Items

- Eigenlight 4-Channel Inline Power Meter ([www.eigenlight.com](http://www.eigenlight.com))
  - Many thanks to Ted Strand et al.
  - 4x single-channel inline power meters repackaged
    - A4-LLNL01-01A
      - M320 meters
    - A4-NST01-01A
      - M310 meters
  - Increased sensitivity
    - Uncalibrated below -50dBm
    - Response down to -90dBm
      - Allows user to “see” low return loss probes & target surface
  - No large jacketed fiber to manage
    - FC/APC connections on unit

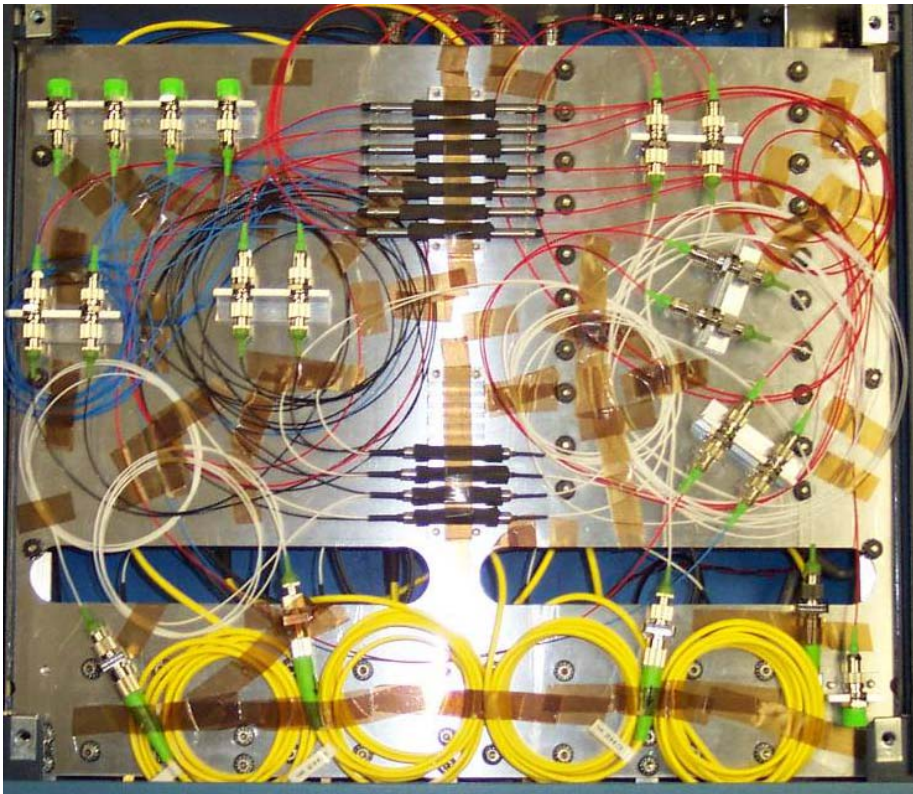




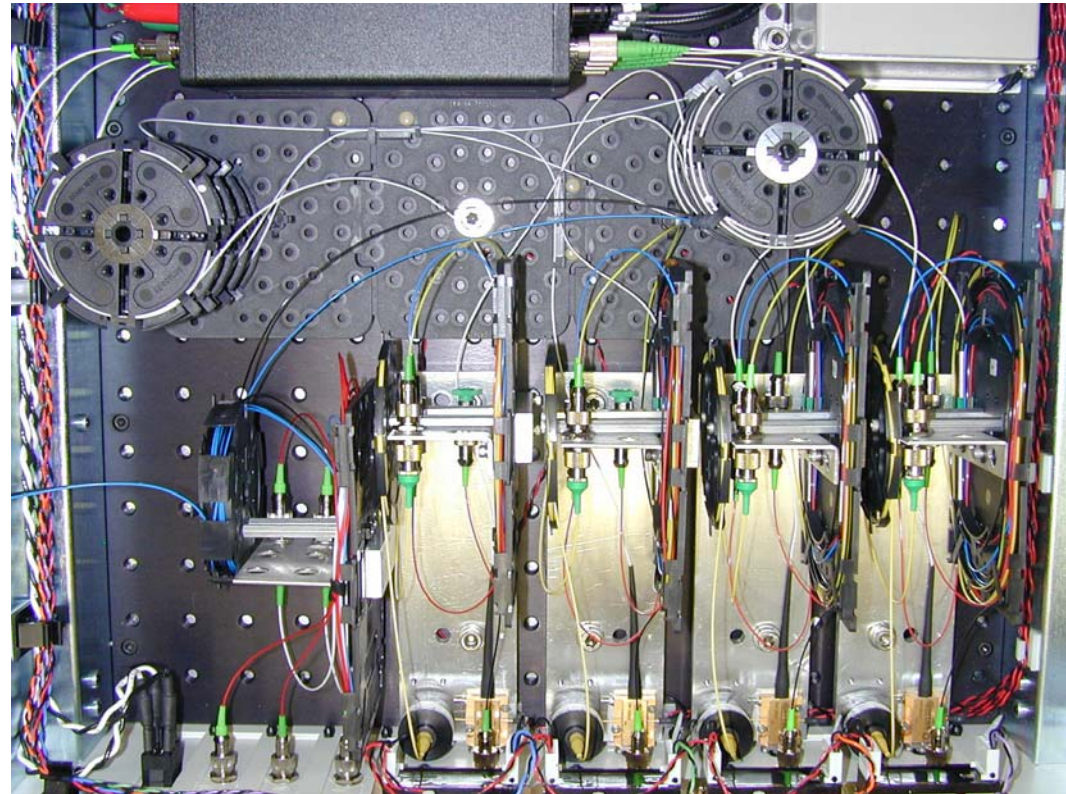
# PDV Fabrication: Noteworthy Items

Richco Fiber Management Hardware ([www.richco-inc.com](http://www.richco-inc.com))

Then



Now



## PDV Fabrication: Noteworthy Items

- *“Cleanliness is next to Godliness”*
  - Optispec Fiber Inspection Scopes ([www.microenterprises.net](http://www.microenterprises.net))
    - ME1000 or ME5000 Hand-Held Inspection Scope
    - ME9600 and ME9100 Video Inspection Scope



- Cletop Fiber Cleaner ([www.fiberinstrumentsales.com](http://www.fiberinstrumentsales.com))
  - F16270 Fiber Connector Cleaner
  - F16271 Replacement Reel



# PDV Fabrication: Cast

## Gen. II 4-Channel PDV Fabrication Team:

Adam Iverson

Bart Briggs

Jason Young

Assisted by NSTec-LVO:

Martin Palagi

Ben Simpson

Trent Otteson

Scott Jenkins

Robert Pritchett



# PDV Fabrication: Thanks

## Special Thank You to:

David Holtkamp

Ted Strand

Bruce Marshall

Brian Jensen

Paulo Rigg

Jerry Stevens

Scott Levinson

David Esquibel

Doug DeVore

Araceli Rutkowski

Mike Rutkowski

# PDV Fabrication: Future?

Want PDV?

Stick around for the next presentation...

(Rutkowski Modular PDV)